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Spirent AION

Spirent TestCenter Multicast Routing Bundle

Application Overview

Spirent TestCenter Multicast Routing Bundle supports high performance and realistic topologies for multicast routing technologies and enables Network Equipment Manufacturers, Service Providers and Enterprises to quickly evaluate and troubleshoot routing functionality, performance and scalability of any routing device or network. Users can expose the true performance of a router/switch by stress testing the routing software, data forwarding hardware, and the overall system architecture under both static and dynamic routing conditions.

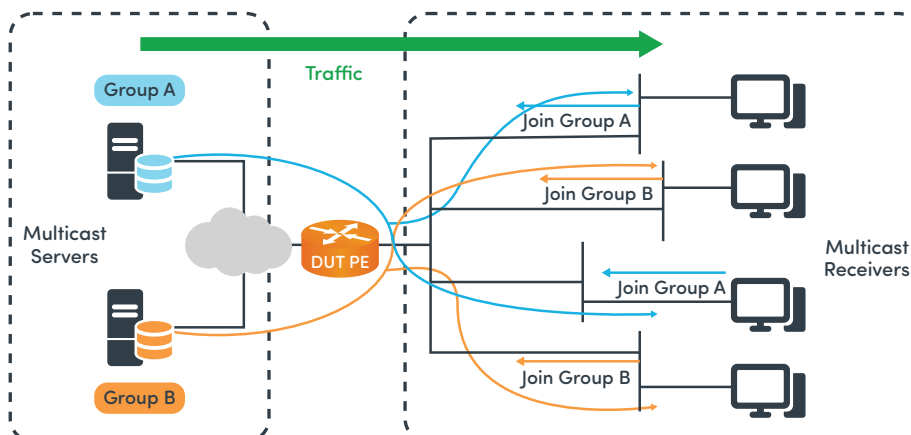
Multicast is the networking method for efficient distribution of one-to-many traffic. A multicast source, such as a live video conference, sends traffic in one stream to a multicast group. The multicast group contains receivers such as computers, devices, and IP phones. As collaborative services and broadcast media become more prevalent, Multicast traffic loads increase and stress the capabilities of traditional IP networks and next generation MPLS networks. QoS technologies can help network designers to plan, design, test, and implement scalable, secure, highly available Triple Play networks. PIM-SSM filtering capabilities also aid in limiting the impact that Multicast traffic groups have on mission critical network traffic.

Multicast Routing Bundle features helps quickly evaluate and troubleshoot Multicast routing protocols, forwarding behavior, and performance in devices and networks.

Protocol Independent Multicast Sparse Mode (PIM-SM) and Protocol Independent Multicast Source Specific Multicast (PIM-SSM) emulations are the most common multicast routing protocols for IPv4 and IPv6 Multicast traffic.

Bit Index Explicit Replication (BIER) is a new technology for forwarding multicast traffic. Instead of building multicast forwarding trees, this protocol encapsulates the multicast packets into a BIER header and are forwarded within a BIER domain based on the header information. Using BIER header, multicast traffic is only forwarded to the nodes that need to receive the multicast traffic. As a result, multicast traffic follows an optimal path within the BIER domain.

The **Multicast Source Discovery Protocol (MSDP)** is used between PIM-SM domains to convey information about active sources available in other domains.



- **Realistic Network Topologies**—emulate real world networks and evaluate key performance parameters of routers or networks under typical or extreme traffic load conditions for minutes, hours and days
- **Network/Service Reliability**—verify scale, reliability, performance of Layer 2 & 3 services including data, multicast, and video delivered via unicast routing, multicast routing, switching, and MPLS VPN technologies
- **Wide Range of Use cases**—qualify routers during development, quality assurance, and regression testing; requalify routers after software or firmware upgrades and perform comparative analysis of routers during vendor selection
- **Increase Productivity**—test and configuration wizards allow quick setup; capture functionality, protocol events and live status views make troubleshooting easy with TestCenter IQ and help save time
- **Cost-Effective Solution**—complete multicast routing protocol emulation suite in simple affordable packages
- **Trusted Partner**—benefit from decades of testing experience with Spirent as your guide through a world of complex testing

About AION

Spirent AION is a flexible delivery platform that enables users to achieve improved deployment and provisioning for all their cloud and network testing needs. It is designed to deliver ultimate flexibility in how Spirent TestCenter platforms are purchased and utilized.

The extended platform combines a wealth of industry-leading test solutions with a flexible licensing architecture to support a wide range of next-generation solution-based domain applications.

AION offers a centralized management hub to help leverage software and hardware functionalities across all lab users and locations for a simplified management and decision-making process:

- **Flexible purchasing options** available via subscription, consumption-based, and perpetual plans, with the ability to license different bandwidth, scale, and protocol bundles.
- **Flexible deployment options** offered include cloud-delivery, on-prem, and laptop-hosted licensing services.

Enhanced user serviceability delivers always-on platform services from auto-discovery and inventory management to user and workspace administration, notifications, and log aggregation.

Features & Benefits

- Support for PIM-SM, PIM-SSM for testing efficient forwarding of IPv4 and IPv6 Multicast traffic
- Support for BIER over OSPF, ISIS and BGP control plane to establish BIER domains
- Combine with Unicast Routing and MPLS protocols to test multicast traffic distribution, Multicast VPN or Next Generation Point-to-Multipoint Traffic Engineering (P2MP-TE)
- Combine with Application Layer Protocols, Video Quality Analysis (VQA) or RFC 3918 Multicast Benchmarking to test or bench-mark Multicast networks under realistic environments
- Multicast Routing Wizard quickly builds hundreds or thousands of emulated routers
- Integrated data-plane traffic enables users to send, receive, inspect, and accumulate statistics at wire-rate; users can also monitor the real time effects that router configurations have on traffic and QoS classes
- Validate performance, scalability and protocol functionality in the same test by running multiple protocols concurrently on each port
- Using advanced multi-threading architecture, user can scale number of sessions or route scale with multi-dimension
- Use the Command Sequencer with TCL scripts to send SNMP commands, get SNMP data, configure the device under test, run entire test and generate pass/fail results; advanced command sequencer capabilities allow users to extend Spirent TestCenter to meet their test needs

Technical Specifications

Parameter	Description
Multicast Routing	
PIM	• PIM SM, PIM SSM • Full Bootstrap Router (BSR) emulation • Emulate First Hop Routers (FHRs), Rendezvous Points (RPs), and simulate Last Hop • Join (*, G), (S, G) or (*, *, RP) Multicast groups
BIER	• Bit Index Explicit Replication • OSPF BIER • ISIS BIER • BGP BIER
MSDP	• Multicast Source Discovery Protocol

Ordering Information

Product Number	Description
AON-PB-MCAST-RT*	AION Multicast Routing Bundle

**Requires AION Routing & Switching (AON-PB-RTSW) license.*

Bundles are available in different number of seats, contact your Spirent Sales Representative to find the right combination for your testing needs.